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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,191	12/15/2000	Young-Kung Kim	P-169	8457

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EXAMINER	
QURESHI, AFSAR M	
ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/736,191	KIM ET AL.	
	Examiner	Art Unit	
	Afsar M Qureshi	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 4.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. Responsive to communication, received on July 27, 2004, amendments to Specification and claims are entered as requested.

2. **The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.**

3. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Pat. No.
6,434,612 issued to Hughes et al (hereinafter Hughes).

Regarding claims 1, 6, and 12, Hughes discloses a connection control interface utilizing Virtual Switch Interface (VSI) that provides generic GSMP functionalities and a method for controlling hardware resources for an ATM switch system comprising:

a. A VSI master 518 (see figure 9) resides in a hardware processor separated from an
ATM switch 502 (A master function unit mounted at a processor board existing outside a switching system; claim 1. A master function unit for performing master function of a standard protocol; claim 6). See col. 8, lines 14-18.

b. Networks switch 100 (see figure 2) comprising controller 105, trunk module 110, service modules 115 and 120. The controller 105 transfers command and configuration information to the target trunk and service modules using command bus

127. (A protocol processing function unit mounted at a processor board existing in the switching system; claim 1. A protocol-processing unit for interfacing with the master function unit; claim 6. Receiving a resource control message through a standard protocol from a protocol master and transmitting a resource control message from a protocol processing function unit to the resource control function unit; claim 12). See col. 2, lines 12-18.

c. Within the ATM switch 502 (see figure 9), a VSI slave 522 communicates with the

VSI master 518 using VSI and receiving control messages from the master. The VSI slave controls the switch hardware (A plurality of resource control function units for receiving a control message and actually controlling a hardware resource; claim 1. A plurality of resource control function unit for analyzing a control request message, controlling, and managing a hardware resource; claim 6. Performing a controlling operation for an actual hardware according to the type of control message; claim 12). See also col. 8, lines 14-18.

d. A PNNI application VSI controller 510 (see figure 9) interfaces with the VSI master

518 using VSI API 514 for controlling the private network-to-network interfaces within the ATM switch (An application program for controlling the ATM switching system through the master function unit; claim 6).

e. Figures 10 and 11 depict an integrated unit comprising slave VSI (GSPCF) and software resource controls (MSRF), 1618 and 1610 respectively. Both

units have different functions carried out independent of each other (see col. 8, line 36 through col. 10, line 48)

Regarding claims 2 and 13, in addition to the limitations discussed in the rejection of claims I and 12 above, Hughes further discloses that each VSI controller 402 has a VSI master 408 that communicates with a VSI slave 430 using VSI protocol (The master function unit and the protocol processing slave function unit performs standard protocol). See fig. 8, and col. 7, lines 62-67.

Regarding claims 3 and 7, Hughes further discloses that VSI provides same functionalities as the General Switch Management Protocol, such as connection setup. (The standard protocol is a general switch management protocol). See col. 5, lines 13-29.

Regarding claims 4, 8 and 14, in addition to the limitations as discussed in the rejection of claims 1, 6 and 12 above, Hughes further discloses that, in the network switch 100, the controller 105 (the protocol processing function unit mounted only at one of the processor boards), trunk module I 10, and service modules 115 and 120 are separately located in different modules in the system (the resource control function units are separately mounted at each processor board). They are connected by data path bus 125 and command bus 127. See fig. 2, and col. 1, lines 38-44.

Regarding claims 5 and 11, in addition to the limitations in claims 4 and 6 discussed earlier, Hughes further discloses that the VSI slaves 520 and 522 communicate with each other via an INTER-SLAVE MESSAGING path (see figure 9) to exchange information (plurality of resource control function units inter-work with each other).

Regarding claims 9 and 18, in addition to the limitations in claims 6 and 12 discussed earlier, Hughes further discloses that, in the network switch 100, the controller 105 translates a protocol message into a format that is suitable for the target or service module (the protocol processing function unit analyzes port information included in the received control request message). Then it transfers the message to the target trunk or service module using command bus 127 (transmits a corresponding resource control message to one of the plurality of resource control function units). See fig. 2, col. 2, lines 12-18.

Regarding claim 10, Hughes further discloses that at least four categories of messages are defined by the VSI. For example, a connection request message allows the master to request the slave to setup of a connection (the protocol processing unit generates a child process for performing an appropriate function according to the type of the control request). See col. 12, lines 19-20.

Regarding claim 15, in addition to disclose the limitations in claim 12 discussed earlier, Hughes further discloses that at least four categories of messages are defined by the VSI. For example, a connection request message allows the master to request the slave to setup of a connection (the resource connection message is a connection control message). See col. 12, lines 19-20. Furthermore, the VSI slaves 520 and 522 communicate with each other via an inter-slave messaging path to exchange information (the resource control function inter-work with others). See fig. 9, INTER-SLAVE MESSAGING.

Regarding claims 16 and 19, in addition to the limitations discussed in the rejection of claim 12 above, Hughes further discloses that:

• the VSI master and VLSI slaves are synchronized by exchanging database information in order to get into a known state (Performing binding and synchronization with resource control function units, and performing synchronization with the protocol master; claim 16. Performing binding and synchronizing with the protocol processing function unit; claim 19). See col. 12, line 66 through col. 13, line 4.

• at least four categories of messages (resource control message) are defined by the VSI. For example, a connection request message allows the master (protocol master) to request the slave (resource control function unit) to setup of a connection. In response, the slave checks for message errors, performances the connection, and returns a connection request response message back to the master (Being in standby state for receiving resource control message from the protocol master, checking a protocol error, generates an appropriate message to the resource control function unit; claim 16. Being in standby state for receiving the resource control message from the protocol processing function unit, checking an error, and generating an appropriate message; claim 19). See col. 12, lines 19-24.

• during initialization, user configures the switch and control ports (Transmitting the configuration information of the switching system to the protocol processing function unit; claim 19). See col. 14, lines 54-56.

Regarding claims 17 and 20, in addition to the limitations in claims 16 and 19 discussed earlier, Hughes further discloses that there are at least four categories of messages

defined: namely, connection request, connection response, interface information, and switch information messages. The master sends connection request and interface information messages to the slave through the protocol-processing unit (Subroutine for transmitting a connection control request and a statistics request messages; claim 17)). On the other hand, information message is sent by the slave to inform the master when configuration or state has changed (Subroutine for processing configuration request/change or state change from the resource controller unit (claim 17) or an operation maintenance block (claim 20)). See col. 12, lines 19-30.

Response to Arguments

4. Applicant's arguments filed on July 27, 2004 have been fully considered but they are not persuasive. The Applicant argued that the cited reference, Hughes et al., fails to disclose the added limitation "*wherein the protocol processing function unit and the resource control function units are separately implemented from each other*".

In the rejection of claims 1, 6 and 12 above, the Examiner addressed the same limitation referring to figures 10 and 11 and the full description therein by Hughes. The Examiner contends that although VSI slave unit is shown as an integrated unit, same as in figure 3 of the instant application, nonetheless, Hughes discloses that different functions are carried out separately associated with each unit.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M Qureshi whose telephone number is (571) 272 3178.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272 3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AFSAR QURESHI
PRIMARY EXAMINER

January 05, 2005